Attorney Docket No. 50325-0109 (Seq. No. 1976)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of: Confirmation No. 6479

Hang Zhang et al. Group Art Unit No.: 2143

Serial No.: 09/496,600 Examiner: Alina A. Boutah

Filed: February 2, 2000

For: METHOD AND APPARATUS FOR BROWSING A MANAGEMENT INFORMATION BASE

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUPPLEMENTAL APPEAL BRIEF

Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed on November 29, 2004, and in response to the Order Returning Undocketed Appeal To Examiner mailed on August 29, 2005.

I. REAL PARTY IN INTEREST

Cisco Technology, Inc., a wholly-owned subsidiary of Cisco Systems, Inc., San Jose, California, is the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeals or interferences.

III. STATUS OF CLAIMS

Claims 1-44 are pending in this application, were finally rejected and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

An amendment was filed on July 28, 2004, subsequent to the final Office Action mailed on May 28, 2004. An Advisory Action was mailed on November 4, 2004, which denied entry of the amendment of July 28, 2004.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The present application contains independent Claims 1, 11, 17, 23, 24 and 31.

A. Independent Claims 1, 17 and 31

Claims 1, 17 and 31 recite similar limitations, except in the context of a method, a computer-readable medium, and a system, respectively. Claims 1, 17 and 31 are directed generally to an approach for obtaining, directly from a network packet router via a Web browser, a current value of a Management Information Base (MIB) variable stored in the packet router.

According to the approach recited in Claims 1, 17 and 31, a connection of a Web browser to a packet router is received (block 502 of FIG. 5; block 602 of FIG. 6; block 702 of FIG. 7). An HTTP (Hypertext Transfer Protocol) request message is received from the browser at the packet router. The request message is to obtain the current value of a MIB variable from the packet router to which the variable pertains. The current value of the MIB variable is communicated from the packet router to which the variable pertains, to the browser, using an HTTP reply message (block 620 of FIG. 6; block 728 of FIG. 7). In an

embodiment, the communications between the Web browser and the packet router are via an HTTP daemon executed by and hosted within the packet router. (Specification at Page 6, line 1 through Page 7, line 11; Page 9, line 10 through Page 10, line 16; Page 10, line 18 through Page 12, line 16; Page 15, line 6 through Page 16, line 11; Page 19, line 1 through Page 22, line 21; FIG. 2; FIG. 3; FIG. 5; FIG. 8.)

B. Independent Claim 11

Independent Claim 11 recites a network device comprising a processor, a MIB comprising stored values of MIB variables, an SNMP (Simple Network Management Protocol) daemon executed by the processor, and an HTTP daemon executed by the processor. The device further comprises stored instructions for obtaining a current value of a MIB variable stored in a network packet router, which when executed by the processor, cause the processor to carry out similar steps as to those recited in Claims 1, 17 and 31. (Specification at Page 6, line 1 through Page 7, line 11; Page 9, line 10 through Page 10, line 16; Page 10, line 18 through Page 12, line 16; Page 12, line 17 through Page 15, line 5; Page 15, line 6 through Page 16, line 11; Page 19, line 1 through Page 22, line 21; FIGS. 2-5; FIG. 8.)

C. Independent Claims 23 and 24

Independent Claim 23 recites an HTTP browser program including a plug-in executable software element configured for obtaining a current value of a MIB variable stored in a network packet router, which when executed by a processor that executes the browser, causes the processor to carry out the following steps: connecting the browser to the packet router, translating an SNMP query to a HTTP request message, communicating the request message from the browser to the packet router to obtain the current value of the MIB

variable, receiving the current value of the MIB variable in an HTTP reply message from the packet router, and displaying the value using the browser. Independent Claim 24 recites an applet executable in a browser program and configured for obtaining a current value of a MIB variable stored in a network packet router, which when executed by the browser, causes the browser to carry out similar steps to those recited in Claim 23. (Specification at Page 6, line 1 through Page 7, line 11; Page 9, line 10 through Page 10, line 16; Page 10, line 18 through Page 12, line 16; Page 12, line 17 through Page 15, line 5; Page 15, line 6 through Page 16, line 11; Page 18, lines 1-25; Page 19, line 1 through Page 22, line 21; FIGS. 2-5; FIG. 7; FIG. 8.)

D. Claims 31-40 and Claim 44: System comprising means for functions

Claim 31 recites a system for obtaining a current value of a MIB variable stored in a network packet router, comprising respective means for performing similar steps to those recited in Claim 1. One form of structural means that can implement the steps corresponding to Claim 31 is a computer system 800, as illustrated in FIG. 8 and described in the Specification at Page 19, line 1 through Page 22, line 21. The structural means described in reference to computer system 800 can implement steps, recited in Claims 31-36, 38-40 and 44, performed by the device 202 (FIGS. 2-4). The structural means described in reference to computer system 800 can implement steps, recited in dependent Claims 37, performed by the browser 208 (FIGS. 2-4).

Various forms of computer-readable media may be involved in carrying one or more sequences of instructions to processor 804 for execution, as described in the Specification at Page 20, line 20 through Page 21, line 18.

Means (i) for receiving a browser connection to the packet router, (ii) for receiving an HTTP request at the packet router, and (iii) for communicating the current value of the MIB variable from the packet router to the browser may be implemented by HTTP daemon 304 (FIGS. 3-4) executed by and hosted within device 202 (FIGS. 2-4). Means for receiving the current value of the MIB variable from the MIB of the packet router may be implemented by SNMP daemon 308 (FIGS. 2-3) executed and hosted within device 202 (FIGS. 2-4).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-44 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Krishnamurthy et al. ("*Krishnamurthy*"; U.S. Patent No. 6,389,464) in view of Spofford et al. ("*Spofford*"; U.S. Patent No. 5,913,037) and in further view of Moeller et al. ("*Moeller*"; U.S. Patent No. 6,662,208).

VII. ARGUMENTS

A. Introduction

To establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), the references cited and relied upon must teach or suggest all the claim limitations. In addition, a sufficient factual basis to support the obviousness rejection must be proffered. *In re Freed*, 165 USPQ 570 (CCPA 1970); *In re Warner*, 154 USPQ 173 (CCPA 1967); *In re Lunsford*, 148 USPQ 721 (CCPA 1966). *Krishnamurthy*, *Spofford* and *Moeller*, considered alone or in combination, do not teach or suggest all the limitations of Claims 1-44. Further, the Office has failed to proffer a sufficient factual basis to support the rejection of Claims 1-44 under 35 U.S.C. § 103 as unpatentable over *Krishnamurthy* in view of *Spofford* and in further view of *Moeller*.

B. Claims 1-44 Are Patentable Over *Krishnamurthy* in view of *Spofford* and in further view of *Moeller*

Claims 1-44 are patentable over *Krishnamurthy*, *Spofford* and *Moeller* for at least the reasons provided hereinafter.

CLAIMS 1-4, 7-10, 17-21, 28-40, 41, 43 AND 44

Claim 1 recites a method for obtaining a current value of a Management Information Base (MIB) variable stored in a network packet router, comprising:

receiving a connection of a Web browser to a network packet router;

receiving at the network packet router an HTTP request message from the browser to obtain the current value of the MIB variable from the network packet router to which the MIB variable value pertains;

receiving the current value of the MIB variable from the MIB of the network packet router to which the MIB variable value pertains; and

communicating the current value of the MIB variable from the network packet router to which the MIB variable value pertains to the browser using an HTTP reply message.

(i) SUMMARY OF THE KRISHNAMURTHY REFERENCE

Krishnamurthy, the primary reference in the rejection of Claim 1, describes a system comprising a site server 12, to which devices 14 can be connected (col. 5, lines 48-50). The system further comprises a relational database 80 for storing configuration data which, when used in connection with MIB files, allows native interfaces of devices to be interpreted as SNMP operations, thereby allowing for management of different types of devices 14

connected to the site server 12 (col. 6, lines 58-65). A web server 64 of site server 12 supports a scripting language to allow commands to operate on the relational database 80 (col. 8, lines 24-27) and to specify variables in the scripting language to bind to specific MIB instances, thus indicating to an SNMP agent 82 that a specific procedure should be run during processing of SNMP operations (col. 9, lines 30-38).

The site server is further characterized as a universal device management terminal for managing a plurality of devices from different vendors (col. 20, lines 30 and 31). The site server 12 is configured from a remote computer 58 using a web browser (col. 12, lines 39-42) and is programmed to download device MIBs corresponding to devices 14 connected to its ports 92, 94, 96 (col. 14, lines 37-40). For example, a Get command is placed in a native protocol and format that can be understood by a device 14 (col. 16, lines 39-42).

(ii) CITED REFERENCES HAVE INADEQUATE DISCLOSURE FOR PRIMA FACIE OBVIOUSNESS

One criterion that must be met to establish a prima facie case of obviousness under 35 U.S.C. § 103(a) is that the cited reference (or references when combined) must teach or suggest all the claim limitations. *MPEP § 2143* Basic Requirements of a Prima Facie Case of Obviousness.

Generally, Claim 1 provides the ability to view values of MIB variables directly from a conventional web browser, without an intermediary component, such as the site server of *Krishnamurthy*. For example, values for MIB variables for a router can be accessed and viewed from an ordinary browser using HTTP messages, by accessing a MIB on the router by communicating directly with an HTTP daemon in the router, without any intermediary component.

None of the cited references (*Krishnamurthy*, *Spofford* and *Moeller*) disclose, suggest or motivate, either independently or in combination, hosting and executing code in a router to enable direct querying of a router MIB from a conventional web browser. Additionally, none of the cited references disclose, suggest or motivate hosting and executing code in a router to directly query a router MIB using HTTP, which is a communication protocol that routers do not typically understand.

Krishnamurthy describes an example of the conventional approach of using an external intermediary component, the site server 12, to interface between a web browser and a router from which MIB variable values are desired. *Spofford* describes communications between a management console 110 and a network device 102 to manage MIBs, but makes no mention of how such communications might work when originating from a browser or when using HTTP messages to request the MIB variable values. The switch 12 of *Moeller* stores a registration database 26 for ascertaining the current status of a separate ATM device in an ELAN 10 (emulated local area network) (col., 5, lines 1-8), but not how to query the ATM device directly for MIB variable values about the device. Hence, the collective disclosures of the cited references do not teach or enable the translation or conversion of HTTP and other protocols, and other processing that would be required of a router that can be directly queried for MIB information, from a browser using HTTP messages.

Integrating the necessary code into the router enables the reception of HTTP request messages directly (i.e., not through an intermediary protocol conversion/handling server like the site server of *Krishnamurthy*) from the browser over the web, to obtain the current value of the MIB variable from the router. For example, the router operating system may comprise or host code embodying an HTTP daemon, an HTTP-SNMP interface process, and an SNMP

daemon. Such code enables communications between a browser and the router MIB, and within the router itself, that may require use of different protocols. Thus, a browser can connect by HTTP directly to an HTTP server in the router and retrieve MIB variable values.

A *prima facie* obviousness rejection for Claim 1 requires at least a prior art teaching of particular functionality, within a network packet router, for HTTP message communication purposes. This requirement is not met because *Krishnamurthy* describes the use of the site server as an intermediary component between a browser and a router that is being queried for MIB information. The disclosure of *Krishnamurthy* is deficient because it does not teach or suggest directly querying a router from a browser, to obtain MIB information. Therefore, a *prima facie* case of obviousness is not established.

The existence of a system based on distributed functionality, as described in *Krishnamurthy*, does not make *per se* obvious a system based on localized functionality executed by and hosted within one device, as with Claim 1. As stated by the Court of Appeals for the Federal Circuit, "[t]o imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of hindsight syndrome wherein that which only the inventor taught is used against its teacher." *W. L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983).

Furthermore, an obviousness rejection is not appropriate if substantial reconstruction or redesign of the prior art references is necessary to arrive at the invention (see *In re Ratti*, 270 F. 2d 810, 123 USPQ 349 (C.C.P.A. 1959)), as is the case with the references used to reject Claim 1. None of the cited references convey or suggest the integration of an HTTP daemon or server into a network packet router, for interfacing with a network browser using

HTTP to access MIB information about, and stored within, the router. Consequently, all of the systems of *Krishnamurthy*, *Spofford*, and *Moeller* would have to be substantially redesigned to provide for direct querying of MIB information from a network packet router.

(iii) THERE IS NO MOTIVATION TO COMBINE THE CITED REFERENCES

The criteria that must be met to establish a *prima facie* case of obviousness under 35 U.S.C. §103(a) also require some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *MPEP § 2143* Basic Requirements of a Prima Facie Case of Obviousness.

Moreover, the Court of Appeals for the Federal Circuit has stated that the best defense against hindsight-based obviousness is the requirement for a showing of a teaching or motivation to combine prior art references. In particular, the Federal Circuit has made clear that "a showing of a suggestion, teaching, or motivation to combine the prior art references is an 'essential evidentiary component of an obviousness holding.'" *Brown & Williamson Tobacco Corp.* v. *Philip Morris Inc.*, 229 F.3d 1120, 1125, 56 USPQ2d 1456 (Fed. Cir. 2000) (quoting *C.R. Bard, Inc.* v. *M3 Sys. Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225 [Fed. Cir. 1998]). Specifically, the showing must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing alone, are insufficient. *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614 (Fed. Cir. 1999).

Further, the required teaching or suggestion to make the claimed combination must not be based on the applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Thus, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the cited reference also suggests the

desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

One skilled in the art at the time of the invention would not have been motivated to combine the teachings of *Krishnamurthy*, *Spofford*, and *Moeller* to achieve what is recited in Claim 1. These references do not teach or suggest incorporating code for handling browser-based HTTP messages into a router. Furthermore, one skilled in the art at the time of the invention would not be motivated to incorporate code for handling browser-based HTTP messages into a router because that was counter-intuitive at the time of the invention. In contrast, conventional wisdom at the time of the invention was to conserve limited router processing and storage resources and to place HTTP intelligence outside of the router, as described in *Krishnamurthy*. The need for substantial reconstruction of the references, as noted above, plainly shows that the references lack motivation.

Ascertaining the differences between the prior art and the claims at issue requires interpreting the claim language, and considering both the invention and the prior art references as a whole. Thus, "the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious." *MPEP §2141.02* citing *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983).

The Office Action does not address Claim 1 as a whole. Rather, the Office Action appears to use impermissible hindsight to pick and choose certain features from several different references in an attempt to stitch together an obviousness rejection. It is well-settled that "[i]t is impermissible to use the claimed invention as an instruction manual or

'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious" and that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fritch*, 972 F.2d 1260, 23 USPQ 2d 1780, 1784 (Fed. Cir 1992); quoting *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988).

The Federal Circuit has reiterated that "the tests of whether to combine references need to be applied rigorously." *McGinley v. Franklin Sports Inc.*, 262 F.3d 1339, 60 USPQ 2d 1001, 1008 (Fed. Cir. 2001). Broad, conclusory statements regarding the teaching of multiple references, standing alone, are not "evidence" (*McElmurray v. Arkansas Power & Light Co.*, 995 F.2d 1576, 1578, 27 USPQ 2d 1129, 1131 (Fed. Cir. 1993)), and a general relationship between fields of the prior art references is insufficient to suggest the motivation to combine such references (*In re Dembiczak*, 175 F.3d 994, 50 USPQ 2d 1614, 1617 (Fed. Cir. 1999)).

Guided by the foregoing principles, the Office Action statement that "one of ordinary skill in the art would have been motivated to receive and communicate the value of a MIB by directly querying the network packet router in order to quickly access the MIB variable, thus enhancing the network's efficiency" does not meet the standard for an obviousness rejection. The goals of quickness and efficiency are so general and vague that they cannot rationalize the specific invention that is claimed. Indeed, conventional wisdom at the time of the invention was to conserve router processing resources and to place HTTP intelligence outside of the router.

In *Spofford*, network devices may manage and maintain MIBs containing MIB objects pertaining to the respective devices, and in Moeller, a switch may be configured with

a database of MIB information. But these teachings do not provide motivation to incorporate HTTP functionality into a network packet router so that the router can be directly queried for MIB information from a conventional web browser using HTTP messages. "That one can reconstruct and/or explain the theoretical mechanism of an invention by means of logic and sound scientific reasoning does not afford the basis for an obviousness conclusion unless that logic and reasoning also supplies sufficient impetus to have led one of ordinary skill in the art to combine the teachings of the references to make the claimed invention." *Ex parte Levengood*, 28 USPQ 2d 1300 (Bd. Pat. App. & Inter. 1993). Based on the foregoing, the cited references supply no such impetus to make the claimed invention. No probative evidence of obviousness has been identified.

(iv) THE PRIMARY REFERENCE "TEACHES AWAY" FROM THE CLAIMED INVENTION

The absence of any reasonable suggestion or motivation to combine the teachings of the cited references to arrive at the method recited in Claim 1 is even more apparent when the objective of the primary reference, *Krishnamurthy*, is considered. *Krishnamurthy* is specifically and explicitly directed to "a universal device management system for managing multi-vendor devices using a single standard manager ... to translate native protocols and formats of multiple devices into a single, standards-based management protocol" (*Krishnamurthy*; Field of the Invention, col. 1, lines 11-19). Furthermore, in distinguishing "proposed" systems, *Krishnamurthy* summarizes a number of proposed network management systems (*Krishnamurthy*; Background, col. 1, lines 40-43) as requiring "agents in the devices themselves which communicate with a [network] manager using a protocol that the manager understands". *Krishnamurthy* further cites "high development costs required to bring each

proprietary device management system into a standards-based device management domain" and "a need ... to lessen the custom development efforts" (col. 2, lines 56-65).

Hence, in describing the "need", *Krishnamurthy* teaches away from a system in which a protocol conversion agent (e.g., an HTTP daemon, HTTP-SNMP interface, and/or an SNMP daemon) resides in the managed device itself. In contrast, rather than attempting to provide a universal management system that may be able to manage various protocol-disparate network devices, as in *Krishnamurthy*, embodiments of the present invention integrate directly into the network packet router the processes necessary for receiving, handling and sending HTTP and SNMP communications.

Based on *Krishnamurthy*, one skilled in the art would not have been motivated to combine, at the time of the invention, *Krishnamurthy* with *Spofford* and/or *Moeller* to arrive at the invention recited in Claim 1 because *Krishnamurthy* teaches a completely different solution. Further, *Krishnamurthy* teaches disadvantages of integrating network management agents into the managed devices themselves. For these reasons, *Krishnamurthy* "teaches away" from the solution recited in Claim 1 and, therefore, does not motivate combining the cited references.

Claims 17 and 31 recite similar limitations to those recited in Claim 1, except in the context of a computer-readable medium and a system comprising means for functions, respectively. Hence, Claims 17 and 31 are patentable over *Krishnamurthy* in view of *Spofford* further in view of *Moeller*, for at least the same reasons set forth with respect to Claim 1.

Claims 2-4, 7-10 and 41 depend, directly or indirectly, from independent Claim 1. Claims 18-22, 28-30 and 43 depend, directly or indirectly, from independent Claim 17. Claims 32-40 and 44 depend, directly or indirectly, from independent Claim 31. Therefore,

Claims 2-4, 7-10, 18-22, 28-30, 32-41, 43 and 44 are patentable over *Krishnamurthy* in view of *Spofford* further in view of *Moeller*, for at least the same reasons set forth with respect to Claim 1.

CLAIMS 5, 6, 21 AND 22

Claims 5 and 6 depend, directly or indirectly, from independent Claim 1. Claims 21 and 22 depend, directly or indirectly, from independent Claim 17. Hence, Claims 5, 6, 21 and 22 are patentable over *Krishnamurthy* in view of *Spofford* further in view of *Moeller*, for at least the same reasons set forth with respect to Claim 1. Furthermore, it is respectfully submitted that Claims 5, 6, 21 and 22 recite additional limitations that independently render them patentable over the cited references.

Claims 5 and 21 recite, generally, that the HTTP request message is received at an HTTP-SNMP interface. An SNMP query is created based on the HTTP request message, which is communicated to an SNMP daemon of the network packet router. As illustrated in FIG. 3 of the Drawings and described at Page 10, line 18 through Page 12, line 16, an HTTP-SNMP interface and an SNMP daemon can be hosted by and executed within the network packet router.

Claims 6 and 22 recite, generally, that the current value of the MIB variable is communicated to the HTTP-SNMP interface and that a resultant HTML page is sent to an HTTP daemon of the network packet router. As illustrated in FIG. 3 of the Drawings and described at Page 10, line 18 through Page 12, line 16, an HTTP daemon can be hosted by and executed within the network packet router.

Claims 5, 6, 21 and 22 are different from Claims 1 and 17 because these claims specifically recite "structure" (i.e., executable code) that is hosted by and executed within a

packet router to perform particular steps. Thus, Claims 5, 6, 21 and 22 are further patentable over *Krishnamurthy* in view of *Spofford* further in view of *Moeller* because none of the references, independently or in combination, teach, suggest or motivate hosting and executing any of an HTTP-SNMP interface, an HTTP daemon or an SNMP daemon within a router.

CLAIMS 11-16, 25-27 AND 42

Independent Claim 11 recites a network device comprising a processor, a MIB comprising stored values of MIB variables, an SNMP (Simple Network Management Protocol) daemon executed by the processor, and an HTTP daemon executed by the processor. The device further comprises stored instructions for obtaining a current value of a MIB variable stored in a network packet router, which when executed by the processor, cause the processor to carry out similar steps as to those recited in Claims 1, 17 and 31.

Claim 11 is patentable over *Krishnamurthy* in view of *Spofford* further in view of *Moeller* because none of the references, independently or in combination, teach, suggest or motivate hosting and executing any of an HTTP daemon or an SNMP daemon within a router.

Claims 12-16, 25-27 and 42 depend, directly or indirectly, from independent Claim 11. Hence, Claims 12-16, 25-27 and 42 are patentable over *Krishnamurthy* in view of *Spofford* further in view of *Moeller*, for at least the same reasons set forth with respect to Claim 11.

CLAIMS 23 AND 24

Independent Claim 23 recites an HTTP browser program including a plug-in executable software element configured for obtaining a current value of a MIB variable stored in a network packet router, which when executed by a processor that executes the browser,

causes the processor to carry out the following steps: connecting the browser to the packet router, translating an SNMP query to a HTTP request message, communicating the request message from the browser to the packet router to obtain the current value of the MIB variable, receiving the current value of the MIB variable in an HTTP reply message from the packet router, and displaying the value using the browser.

Independent Claim 24 recites an applet executable in a browser program and configured for obtaining a current value of a MIB variable stored in a network packet router, which when executed by the browser, causes the browser to carry out similar steps to those recited in Claim 23.

Claims 23 and 24 are patentable over *Krishnamurthy* in view of *Spofford* further in view of *Moeller* because none of the references, independently or in combination, teach, suggest or motivate use of a browser plug-in or applet for communicating directly with a network packet router to obtain the current value of the MIB variable from the router. Specifically, none of the references fairly teach or suggest execution of code within or by a browser for (a) connecting the browser to the packet router, (b) communicating the request message from the browser to the packet router to obtain the current value of the MIB variable, or (c) receiving the current value of the MIB variable in an HTTP reply message from the packet router.

Krishnamurthy connects a browser to a site server that produces queries of MIBs, and receives responses via the site server. None of the cited references teach or suggest integrating code, within a network packet router, to perform the functionality for obtaining a current value for a MIB variable directly from the router, as described herein. Therefore, it clearly follows that none of the references teach or suggest modifying a conventional web

browser with a plug-in module or executing an applet by a browser, for connecting with and communicating directly with a router to request MIB variable values from the router.

Accordingly, Claims 23 and 24 are patentable over *Krishnamurthy* in view of *Spofford* further in view of *Moeller*.

Based on the foregoing, it is respectfully submitted that the rejection of Claims 1-44 under 35 U.S.C. § 103 as unpatentable over *Krishnamurthy* in view of *Spofford* further in view of *Moeller* lacks the requisite factual and legal bases. Appellants therefore respectfully request that the Honorable Board reverse the rejection of Claims 1-44 under 35 U.S.C. § 103 over *Krishnamurthy* in view of *Spofford* further in view of *Moeller*.

Respectfully submitted,

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on 1/4/06 by Darci Sakamoto

VIII. CLAIMS APPENDIX

1. A method for obtaining a current value of a Management Information base (MIB) variable stored in a managed network device in a network packet router, the method comprising the steps of:

receiving a connection of a Web browser to a network packet router;

receiving, at an HTTP daemon executed by and hosted within the network packet router, an HTTP request message from the browser to obtain the current value of the MIB variable from the network packet router to which the MIB variable value pertains;

receiving the current value of the MIB variable from the MIB of the network packet router to which the MIB variable value pertains; and

communicating, using an HTTP reply message from the HTTP daemon and to the browser, the current value of the MIB variable from the network packet router to which the MIB variable value pertains.

2. The method of claim 1, further comprising the steps of:

creating and storing a MIB object tree in a memory of the network packet router;

creating an electronic document that contains a representation of one or more MIB variables of the MIB object tree;

communicating the electronic document to the Web browser.

3. The method of claim 1, wherein the step of receiving the current value of the MIB variable from the MIB of the network packet router includes the steps of creating and

storing a MIB object tree in a memory of the network packet router ; obtaining the MIB variable from the MIB object tree in the memory of the network packet router.

4. The method of claim 1, further comprising the steps of:

creating and storing a MIB object tree in a memory of the network packet router;

creating an electronic document that contains a representation of one or more MIB variables of the MIB object tree;

receiving a user selection of one of the MIB variables based on the electronic document;

wherein the step of receiving the current value of the MIB variable from the MIB of the network packet router includes the step of obtaining the MIB variable that is identified in the user selection from the MIB object tree in the memory of the network packet router.

5. The method of claim 1, further comprising the steps of:

receiving the HTTP request message to obtain the current value of the MIB variable at an HTTP-SNMP interface;

creating an SNMP query that requests a current value of the MIB variable based on the HTTP request message; and

communicating the SNMP query to an SNMP daemon of the network packet router.

6. The method of claim 1, further comprising the steps of:

communicating the current value of the MIB variable to the HTTP-SNMP interface;

creating and storing an HTML page that contains the current value of the MIB variable; and

sending the HTML page to an HTTP daemon of the network packet router.

7. The method of claim 1, further comprising the step of creating and storing an executable software element in association with the Web browser, wherein the executable software element is configured for packaging an SNMP query into the request from the Web browser.

8. The method of claim 1, wherein the step of receiving a request from the Web browser to obtain the current value of the MIB variable includes the step of unpackaging an SNMP query that is packaged in the request from the Web browser to identify the MIB variable.

9. The method of claim 8, further comprising the step of sending the SNMP query to an SNMP daemon of the network packet router.

10. The method of claim 8, wherein the step of returning the current value of the MIB variable to the Web browser includes the step of repackaging the current value of the MIB variable into an HTTP reply message.

11. A network device, comprising:

a processor;

a Management Information Base (MIB) logically accessible by the processor and comprising one or more stored values of MIB variables;

a Simple Network Management Protocol (SNMP) daemon executed by the processor;

a Hypertext Transfer Protocol (HTTP) daemon executed by the processor;

stored instructions for obtaining a current value of a Management Information base (MIB) variable stored in a managed network device network packet router which, when executed by the processor, cause the processor to carry out the steps of:

receiving a connection of a Web browser to a the network packet router;

receiving, at an HTTP daemon executed by and hosted within the network packet router, an HTTP request message from the browser to obtain the current value of the MIB variable from the network packet router to which the MIB variable value pertains;

receiving the current value of the MIB variable from the MIB of the network packet router to which the MIB variable value pertains; and

communicating, using an HTTP reply message from the HTTP daemon and to the browser, the current value of the MIB variable from the network packet router to which the MIB variable value pertains.

12. The network device of claim 11, wherein the instructions further cause the processor to carry out the steps of:

creating and storing a MIB object tree in a memory of the network packet router;

creating an electronic document that contains a representation of one or more MIB variables of the MIB object tree;

communicating the electronic document to the Web browser.

13. The network device of claim 11, wherein the step of receiving the current value of the MIB variable from the MIB of the network packet router includes the steps of creating

and storing a MIB object tree in a memory of the network packet router ; obtaining the MIB variable from the MIB object tree in the memory of the network packet router .

14. The network device of claim 11, wherein the instructions further cause the processor to carry out the steps of:

creating and storing a MIB object tree in a memory of the network packet router ;

creating an electronic document that contains a representation of one or more MIB variables of the MIB object tree;

receiving a user selection of one of the MIB variables based on the electronic document;

wherein the step of receiving the current value of the MIB variable from the MIB of the network packet router includes the step of obtaining the MIB variable that is identified in the user selection from the MIB object tree in the memory of the network packet router.

15. The network device of claim 11, further comprising an HTTP-SNMP interface which, when executed by the processor, causes the processor to carry out the steps of:

receiving the HTTP request message to obtain the current value of the MIB variable at an HTTP-SNMP interface;

creating an SNMP query that requests a current value of the MIB variable based on the HTTP request message; and

communicating the SNMP query to an SNMP daemon of the network packet router.

16. The network device of claim 11, further comprising the steps of:

communicating the current value of the MIB variable to the HTTP-SNMP interface;

creating and storing an HTML page that contains the current value of the MIB variable; and

sending the HTML page to the HTTP daemon.

17. A computer-readable medium carrying one or more sequences of one or more instructions for obtaining a current value of a Management Information base (MIB) variable stored in a managed network device in a network packet router, the one or more sequences of one or more instructions including instructions which, when executed by one or more processors, cause the one or more processors to perform the steps of:

receiving a connection of a Web browser to a network packet router;

receiving, at an HTTP daemon executed by and hosted within the network packet router, an HTTP request message from the browser to obtain the current value of the MIB variable from the network packet router to which the MIB variable value pertains;

receiving the current value of the MIB variable from the MIB of the network packet router to which the MIB variable value pertains; and

communicating, using an HTTP reply message from the HTTP daemon and to the browser, the current value of the MIB variable from the network packet router to which the MIB variable value pertains.

18. The computer-readable medium as recited in claim 17, wherein the instructions further cause the processor to carry out the steps of:

creating and storing a MIB object tree;

creating an electronic document that contains a representation of one or more MIB variables of the MIB object tree;

communicating the electronic document to the Web browser.

19. The computer-readable medium as recited in claim 17, wherein receiving the current value of the MIB variable from the MIB of the network packet router includes the steps of creating and storing a MIB object tree in a memory of the network packet router; obtaining the MIB variable from the MIB object tree in the memory of the network packet router.

20. The computer-readable medium as recited in claim 17, wherein the instructions further cause the processor to carry out the steps of:

creating and storing a MIB object tree in a memory of the network packet router;

creating an electronic document that contains a representation of one or more MIB variables of the MIB object tree;

receiving a user selection of one of the MIB variables based on the electronic document;

wherein receiving the current value of the MIB variable from the MIB of the network packet router includes the step of obtaining the MIB variable that is identified in the user selection from the MIB object tree in the memory of the network packet router.

21. The computer-readable medium as recited in claim 17, wherein the instructions further cause the processor to carry out the steps of:

receiving the HTTP request message to obtain the current value of the MIB variable at an HTTP-SNMP interface;

creating an SNMP query that requests a current value of the MIB variable based on the HTTP request message; and

communicating the SNMP query to an SNMP daemon of the network packet router.

22. The computer-readable medium as recited in claim 17, wherein the instructions further cause the processor to carry out the steps of:

communicating the current value of the MIB variable to the HTTP-SNMP interface;

creating and storing an HTML page that contains the current value of the MIB variable; and

sending the HTML page to an HTTP daemon of the network packet router.

23. An HTTP browser program including a plug-in executable software element configured for obtaining a current value of a Management Information Base (MIB) variable stored in a network packet router and which, when executed by a processor that executes the browser, causes the processor to carry out the steps of:

connecting the browser to the network packet router;

translating an SNMP query to a HTTP request message;

communicating the HTTP request message from the browser to an HTTP daemon executed by and hosted within the network packet router, to obtain the current value of the MIB variable from the network packet router to which the MIB variable value pertains;

receiving, in an HTTP reply message from the HTTP daemon, the current value of the MIB variable from the MIB of the network packet router to which the MIB variable value pertains; and

displaying the current value of the MIB variable using the browser.

24. An applet executable in a browser program and configured for obtaining a current value of a Management Information Base (MIB) variable stored in a managed network device packet router in a network and which, when executed by the browser, causes the browser to carry out the steps of:

connecting the browser to the network device packet router;

translating an SNMP query to a HTTP request message;

communicating the HTTP request message from the browser to an HTTP daemon executed by and hosted within the network packet router, to obtain the current value of the MIB variable from the network packet router to which the MIB variable value pertains;

receiving, in an HTTP reply message from the HTTP daemon, the current value of the MIB variable from the MIB of the network packet router to which the MIB variable value pertains; and

displaying the current value of the MIB variable using the browser.

25. The network device of claim 11, wherein the step of receiving a request from the Web browser to obtain the current value of the MIB variable includes the step of unpackaging an SNMP query that is packaged in the request from the Web browser to identify the MIB variable.

26. The network device of claim 25, wherein the instructions further cause the processor to carry out the step of sending the SNMP query to an SNMP daemon of the network packet router.

27. The network device of claim 25, wherein the step of returning the current value of the MIB variable to the Web browser includes the step of repackaging the current value of the MIB variable into an HTTP reply message.

28. The computer-readable medium of claim 17, wherein the step of receiving a request from the Web browser to obtain the current value of the MIB variable includes the step of unpackaging an SNMP query that is packaged in the request from the Web browser to identify the MIB variable.

29. The computer-readable medium of claim 28, wherein the instructions further cause the processor to carry out the step of sending the SNMP query to an SNMP daemon of the network packet router.

30. The computer-readable medium of claim 28, wherein the step of returning the current value of the MIB variable to the Web browser includes the step of repackaging the current value of the MIB variable into an HTTP reply message.

31. A system for obtaining a current value of a Management Information base (MIB) variable stored in a managed network device in a network packet router, the system comprising:

means for receiving a connection of a Web browser to a network packet router;

means for receiving, at an HTTP daemon executed by and hosted within the network packet router, an HTTP request message from the browser to obtain the current value of the MIB variable from the network packet router to which the MIB variable value pertains;

means for receiving the current value of the MIB variable from the MIB of the network packet router to which the MIB variable value pertains; and

means for communicating, using an HTTP reply message from the HTTP daemon and to the browser, the current value of the MIB variable from the network packet router to which the MIB variable value pertains.

32. The system of claim 31, further comprising:

means for creating and storing a MIB object tree in a memory of the network packet router;

means for creating an electronic document that contains a representation of one or more MIB variables of the MIB object tree;

means for communicating the electronic document to the Web browser.

33. The system of claim 31, wherein the means for receiving the current value of the MIB variable from the MIB of the network packet router includes

means for creating and storing a MIB object tree in a memory of the network packet router;

means for obtaining the MIB variable from the MIB object tree in the memory of the network packet router.

34. The system of claim 31, further comprising:

means for creating and storing a MIB object tree in a memory of the network packet router;

means for creating an electronic document that contains a representation of one or more MIB variables of the MIB object tree;

means for receiving a user selection of one of the MIB variables based on the electronic document;

wherein the means for receiving the current value of the MIB variable from the MIB of the network packet router includes means for obtaining the MIB variable that is identified in the user selection from the MIB object tree in the memory of the network packet router.

35. The system of claim 31, further comprising:

means for receiving the HTTP request message to obtain the current value of the MIB variable at an HTTP-SNMP interface;

means for creating an SNMP query that requests a current value of the MIB variable based on the HTTP request message; and

means for communicating the SNMP query to an SNMP daemon of the network packet router.

36. The system of claim 31, further comprising:

means for communicating the current value of the MIB variable to the HTTP-SNMP interface;

means for creating and storing an HTML page that contains the current value of the MIB variable; and

means for sending the HTML page to an HTTP daemon of the network packet router.

37. The system of claim 31, further comprising:

means for creating and storing an executable software element in association with the Web browser, wherein the executable software element is configured for packaging an SNMP query into the request from the Web browser.

38. The system of claim 31, wherein the means for receiving a request from the Web browser to obtain the current value of the MIB variable includes means for unpackaging an SNMP query that is packaged in the request from the Web browser to identify the MIB variable.

39. The system of claim 38, further comprising means for sending the SNMP query to an SNMP daemon of the network packet router.

40. The system of claim 38, wherein the means for returning the current value of the MIB variable to the Web browser includes means for repackaging the current value of the MIB variable into an HTTP reply message.

41 The method of Claim 1, wherein the step of receiving a connection comprises receiving a connection to an HTTP daemon in the network packet router, and wherein the step of receiving an HTTP request message comprises receiving an HTTP request message at the HTTP daemon.

42 The network device of Claim 11, wherein the instructions cause the processor to carry out the step of receiving a connection by receiving a connection to an HTTP daemon

in the network packet router and the step of receiving an HTTP request message by receiving an HTTP request message at the HTTP daemon.

43 The computer-readable medium of Claim 17, wherein the instructions cause the one or more processors to perform the step of receiving a connection by receiving a connection to an HTTP daemon in the network packet router and the step of receiving an HTTP request message by receiving an HTTP request message at the HTTP daemon.

44 The system of Claim 31, wherein the means for receiving a connection comprises means for receiving a connection to an HTTP daemon in the network packet router, and wherein the means for receiving an HTTP request message comprises means for receiving an HTTP request message at the HTTP daemon.

IX. EVIDENCE APPENDIX

none

X. RELATED PROCEEDINGS APPENDIX

none